CLAIMS

WHAT IS CLAIMED:

1. A transformer for substantially matching the impedance of a generator and a load, coupled to the generator via a transmission line, comprising:

an outer conductor having an inner surface;

an inner conductor positioned within the outer conductor, and having an outer surface; and

a plurality of transformation sections; and

wherein each of the plurality of transformation sections provides a particular separation distance between the inner surface of the outer conductor and the outer surface of the inner conductor to yield a particular characteristic impedance for each of the plurality of transformation sections, thereby substantially matching the impedance of the generator to the load.

2. The transformer of claim 1, wherein the plurality of transformation sections includes five, six-degree length transformation sections connected in series.

3. The transformer of claim 2, wherein each of the plurality of transformation sections includes a shim disposed along the inner surface of the outer conductor, with each shim yielding the particular characteristic impedance.

4. The transformer of claim 3, wherein each shim has a particular thickness that provides a specific separation distance between the inner surface of the outer conductor and

the outer surface of the inner conductor, thereby yielding the particular characteristic impedance for each transformation section.

5. The transformer of claim 3, wherein each shim is connected end-to-end along the inner surface of the outer conductor.

6. The transformer of claim 2, wherein each of the plurality of transformation sections are formed within the outer conductor.

7. The transformer of claim 6, wherein each of the plurality of transformation sections provides a particular separation distance between the inner surface of the outer conductor and the outer surface of the inner conductor, thereby yielding the particular characteristic impedance for each transformation section.

8. The transformer of claim 2, wherein each of the plurality of transformation sections are formed within the inner conductor.

9. The transformer of claim 8, wherein each of the plurality of transformation sections provides a particular separation distance between the inner surface of the outer conductor and the outer surface of the inner conductor, thereby yielding the particular characteristic impedance for each transformation section.

10. A method for substantially matching the impedance of a generator and a load, coupled to the generator via a transmission line, comprising:

providing an outer conductor having an inner surface;

providing an inner conductor positioned within the outer conductor, and having an outer surface; and

providing a plurality of transformation sections that provide a particular separation distance between the inner surface of the outer conductor and the outer surface of the inner conductor to yield a particular characteristic impedance for each of the plurality of transformation sections.

11. The method of claim 10, wherein providing a plurality of transformation sections further comprises providing five, six-degree length transformation sections connected in series.

12. The method of claim 11, wherein providing a plurality of transformation sections further comprises:

providing a plurality of shims disposed along the inner surface of the outer conductor, with each shim yielding the particular characteristic impedance.

13. The method of claim 12, wherein providing a plurality of shims further comprises:

providing a plurality of shims each having a particular thickness that provides a specific separation distance between the inner surface of the outer conductor and the outer surface of the inner conductor, thereby yielding the particular characteristic impedance for each transformation section.

14. The method of claim 11, wherein providing a plurality of transformation sections further comprises:

providing a plurality of transformation sections that are formed within the outer conductor.

15. The method of claim 14, wherein each of the plurality of transformation sections provides a particular separation distance between the inner surface of the outer conductor and the outer surface of the inner conductor, thereby yielding the particular characteristic impedance for each transformation section.

16. The method of claim 11, wherein providing a plurality of transformation sections further comprises:

providing a plurality of transformation sections that are formed within the inner conductor.

17. The method of claim 16, wherein each of the plurality of transformation sections provides a particular separation distance between the inner surface of the outer conductor and the outer surface of the inner conductor, thereby yielding the particular characteristic impedance for each transformation section.

18. A transformer for substantially matching the impedance of a generator and a load, coupled to the generator via a transmission line, comprising:

an outer conductor having an inner surface;

an inner conductor positioned within the outer conductor, and having an outer surface; and

a plurality of shims disposed along the inner surface of the outer conductor; and

wherein each of the plurality of shims provides a particular separation distance between the inner surface thereof and the outer surface of the inner conductor to yield a particular characteristic impedance for each of the plurality of shims, thereby substantially matching the impedance of the generator to the load.

19. The transformer of claim 18, wherein the plurality of shims includes five, six-degree length shims connected end-to-end along the inner surface of the outer conductor.

20. The transformer of claim 19, wherein the generator includes a transmitter and the load includes an antenna of a wireless transmission network.